

REMARKS

Claims 1-29 are pending in this application. By this Amendment, claims 1 and 12 are amended. Reconsideration of the application is respectfully requested.

Entry of the amendments is proper under 37 C.F.R. §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfy a requirement of form asserted in the previous Office Action; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

The Office Action provisionally rejects claims 1, 3, 4, 10, 12, 16, 18, 22, 24 and 28 under obviousness-type double patenting over claims 1-13 of copending U.S. Patent No. 09/984,039. A Terminal Disclaimer is filed to obviate the double patenting rejection. Accordingly, withdrawal of the double patenting rejection is respectfully requested.

The Office Action rejects claims 1, 3, 4, 10, 12, 16, 18, 22, 24 and 28 under 35 U.S.C. §112, first paragraph. It is respectfully submitted that the recitation of "an electrical conductivity of 13.2% IACS or more" is supported in the specification in Table 3. Table 3 indicates electrical conductivities ranging from 13.2% IACS (sample no. 6) all the way to 15.3% IACS (sample no. 8), and many other alternative values between 13.2% and 15.3% IACS. Accordingly, the recitation of "an electrical conductivity of 13.2% IACS or more" is supported in the specification. As such, withdrawal of the rejection of the claims under 35 U.S.C. §112, first paragraph, is respectfully requested.

The Office Action objects to claims 1, 3, 4, 10, 12, 16, 18, 22, 24 and 28 because of the recitation of the Japanese Industrial Standard H 3110. Reference to the Japanese

Industrial Standard H 3110 is removed from the recitations of independent claims 1 and 12.

Accordingly, withdrawal of the objection to the claims is respectfully requested.

The Office Action rejects claims 1, 3, 4, 10, 12 and 16 under 35 U.S.C. §103(a) over Ikushima et al. (U.S. Patent No. 4,599,119) in view of Nagarjuna et al. ("Effect of Prior Cold Work on Mechanical Properties, Electrical Conductivity and Microstructure of Aged Cu-Ti Alloys," Journal of Materials Science, 34, 1999, pages 2929-2942); and claims 18 and 24 under 35 U.S.C. §103(a) over Ikushima in view of Nagarjuna and further in view of Van Vlack ("Elements of Materials Science and Engineering," Third Edition, pages 187-191). The rejections are respectfully traversed.

In particular, none of the applied references, alone or in combination, disclose or suggest a high strength titanium copper alloy with an average grain size of 5 to 15 μm , as recited in independent claims 1 and 12.

Ikushima teaches an age-hardening copper titanium alloy containing 2 to 6% by weight of titanium and composed of a substantially fully solution and treated structure having an average crystal grain size not exceeding 25 μm (Abstract). However, Ikushima does not teach that an alloy with a grain size in the range 5 to 15 μm has a low tensile strength after aging process and low bendability. Accordingly, it would not have been obvious to choose an alloy as taught in Ikushima with a grain size of 5 to 15 μm because nowhere in Ikushima is there a motivation to achieve low tensile strength after aging process and low bendability. As such, Ikushima fails to render obvious the feature of an alloy with a grain size of 5 to 15 μm . Moreover, Nagarjuna fails to cure deficiencies in Ikushima in disclosing an alloy with a grain size in the range 5 to 15 μm .

Furthermore, the Office Action admits that Ikushima does not disclose a numerical range of electrical conductivity (Office Action, page 5, lines 5-6). However, the Office Action alleges that Nagarjuna teaches an electrical conductivity of 25% and at least 10%

IACS. Applicants respectfully disagree. The alloy taught by Nagarjuna shown in Tables 1 and 3 of Nagarjuna teaches a titanium content of 2.7%, and as such is different than the titanium alloy with 2% titanium, as claimed in the present invention. Accordingly, a combination of Ikushima and Nagarjuna does not arrive at a titanium copper alloy with 2% titanium and an electrical conductivity of 13.2% IACS or more. As such, the features of independent claims 1, 12 and 18, and their independent claims, are patentable over a combination of Ikushima and Nagarjuna. Moreover, Van Vlack fails to cure deficiencies in Ikushima and Nagarjuna in disclosing or rendering obvious a high strength titanium copper alloy with 2% titanium and an electrical conductivity of 10% IACS or more. As such, independent claims 1, 12 and 18, and their dependent claims, are patentable over a combination of Ikushima, Nagarjuna and Van Vlack.

Finally, Ikushima teaches a maximum hardness of 340 Hv (Tables 2 & 4), and as such does not disclose or suggest a hardness of 345 Hv or more, as recited in independent claim 24. Moreover, neither Nagarjuna nor Van Vlack disclose or suggest an alloy with a hardness of 345 Hv. Accordingly, independent claim 24 is patentable over a combination of the applied references. Because a combination of the applied references would not arrive at the claimed invention, the claimed invention in independent claims 1, 12, 18 and 24, and their dependent claims, are patentable over the applied references. As such, withdrawal of the rejections of the claims under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3, 4, 10, 12, 16, 18, 22, 24 and 28 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: May 2, 2005

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